

1. Applicant's election with traverse of Group I, claims 1 to 17 and 25 to 60 in the reply filed on 10/8/09 is acknowledged. The traversal is on the ground(s) that it would not be unduly burdensome for the Examiner to search and examine both groups of claims. This is not found persuasive because the claims are directed to different inventions and as such examination of both sets of claims would necessarily be different. Examination and prosecution of two different inventions would in fact pose an undue burden on the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1 to 17 and 25 to 60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 14

The amounts of the titanate and silane are confusing. For instance since the silane based binder can be present in an amount of 25 wt% and the titanate/ zirconate must be present in an amount of at least .3 wt%, it is unclear how there can ever be a sum of 25 wt% titanate/zirconate and silane based binder. This corresponds to either 0 wt% titanate/zirconate or 24.7 wt% silane based binder.

Claim 15:

The difference between the drying operation and the baking operation is unclear since both are defined by supplying thermal energy of the coated metallic part. The distinction between these two allegedly different steps is unclear.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 to 3, 5 to 8, 13 to 17, 25, 26, 29 to 32, 40, 41, 43, 46 and 51 to 60 are rejected under 35 U.S.C. 102(e) as being anticipated by Krienke et al.

Krienke et al. teach a pigmented alkoxyzirconium sol. Particularly see Table 1 starting column 10. This shows a 2/1 volume ratio (which generally corresponds to a 2/1 weight ratio) of glycidoxypropyltrimethoxysilane and tetrapropoxyzirconium (see column 8, lines 28 and on, which refer to the vol% in the sol and the top of column 9 which indicates that there is a total of 10 vol% of GTMS/TPOZ sol in the binder). In addition, many of these tests include a particulate metal in amounts as claimed. This meets the requirements of instant claim 1.

Please note that the GMTS in these examples meets the requirements of 6 to 8, 31 and 32. The TPOZ meets the requirements of claims 2, 3, 25 and 26. The metal flakes include aluminum, meeting claim 5. For claims 29 and 30, note that this does not require that an alloy actually be used. For claims 13 and 40, note that acetic acid, which enhances the crosslinking of the sol, can be considered a thickening agent as it serves to thicken the composition.

For claim 14, please see Figure 2, the bottom of column 17 through column 18 and column 26, lines 25 and on. This meets the heating temperature of claim 43 as well. Please note that the coating thickness in Table 1 meets the requirements of claims 16, 52, 53 and 55 to 57 as .4 mil corresponds to 10 micron.

Table 1 shows an aluminum substrate meeting the required metallic substrate as well as claims 59 and 60.

6. Claims 9, 10, 33 to 36, 42 and 44 to 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krienke et al.

Krienke et al. do not specifically teach a means for supplying the heat that is used in the coating process but since convection, infrared and induction are common means by which heating occurs, one having ordinary skill in the art would have found such a thermal energy supply to have been obvious. Note that the temperatures and times found in these claims are taught by Krienke et al., for instance in the Figures as well as column 26.

For claims 9 and 10, column 14, lines 53 and on, refer to an alcohol based sol that allows precise control of the amount of hydrolysis. One having ordinary skill in the art would have been motivated by this excerpt to use a combination of alcohol solvent and water in an effort to adjust the amount of hydrolysis while still yielding improved hot/wet durability results. For claims 33 to 36, note that these solvents are not actually required by the claim.

7. Claims 4, 13, 27, 28 and 38 to 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krienke et al. in view of WO 01/85854.

Krienke et al. do not teach the use of zirconate chelates as claimed. Please see the bottom of column 27 which teaches that, while TPOZ is preferred, titanium alkoxides can also be used.

WO 01/85854 teaches a pigmented coating composition for treating metals. This teaches the alternative use of titanium alkoxides and titanium chelates. See for instance paragraph 11 which teaches the alternative use of titanate esters and titanate chelates including triethanolamine titanate. From this one having ordinary skill in the art would have been motivated by the functional equivalence teaching found in WO 01/85854 to substitute a titanium chelate, such as triethanolamine titanate, for a titanium alkoxide (titanium ester) as found in Krienke et al. In this manner claims 4, 27 and 28 are rendered obvious.

For claims 13, 40 and 41, note that WO 01/85854 teaches the addition of both thickeners (paragraph 14) and lubricants (paragraph 15) in amounts that meet that

claimed. It is prima facie obvious to add a known ingredient to a known composition for its known function. Since WO 01/85854 shows that thickeners and lubricants are known additives in such coating compositions, one having ordinary skill in the art would have found the addition of such compounds to the composition of Krienke et al. to have been obvious.

For claim 40, on one hand note that triethanolamine titanate functions as a corrosion inhibitor and as such the obvious addition of this compound meets this claim.

On the other hand, for claims 40 and 41, note that WO 01/85854 teaches the addition of a corrosion inhibitor pigment, including zinc aluminum polyphosphates. See paragraph 13. One having ordinary skill in the art would have found the addition of such a known corrosion inhibitor to the coating composition of Krienke et al. to have been obvious.

8. Claims 12 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krienke et al. in view of Horie et al.

Krienke et al. generally teach the addition of metal oxides on column 28, line 54, but fails to specifically teach the addition of an oxide such as claimed.

Horie et al. teach a silane binder composition in which cerium oxide is added in an effort to improve resistance to UV irradiation.

From this one having ordinary skill in the art would have been motivated to add cerium oxide particles to the coating composition of Krienke et al. in an effort to obtain the known benefits and properties thereof. Such an addition would have been obvious since the coating of Krienke et al. desirably provide resistance to UV radiation (column 30, line 9).

9. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krienke et al. in view of Takahama et al.

Krienke et al. generally teach the addition of metal oxides on column 28, line 54, but fails to specifically teach the addition of an oxide such as claimed.

Takahama et al. teach a silane binder based coating composition. Starting on column 4, line 51, through column 2, Takahama et al. teach the addition of a photo-semiconductor material which provides various benefits to the composition, including improved hydrophilicity and self cleaning effects. These materials include molybdenum oxide and zirconium oxide.

One having ordinary skill in the art would have been motivated by the teachings in Takahama et al. to add an oxide meeting the requirements of these claims to the composition in Krienke et al. in an effort to obtain the known benefits and properties thereof. In this manner the instant claims are rendered obvious.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday and Wednesday to Friday, 10am to 4pm.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Margaret G. Moore/  
Primary Examiner, Art Unit 1796

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